ABSTRACT

A rotary fluid machine is provided in which, among first bearings (23f, 23r) and a second bearing (24) supporting in a casing (11) opposite ends of a rotor (22) that includes an axial piston cylinder group (56) for converting the pressure energy of a working medium into mechanical energy, only the first bearings (23f, 23r) are formed from combined angular bearings that can support an axial load, and the second bearing (24) is formed from a radial bearing that can support a radial load and is axially movable relative to the rotor (22). Since the rotor (22) is axially positioned relative to the casing (11) by only the first bearings (the combined angular bearings) (23f, 23r), a difference in the amount of axial thermal expansion between the casing (11) and the rotor (22) can be absorbed by the second bearing (radial bearing) (24) without any problem. This can solve effectively problems caused by a difference in the amount of thermal expansion between the casing and the rotor of the rotary fluid machine.